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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/815,442	03/19/2001	Tai Quan	SUN-P6097-RJL	5773
28422	7590	06/24/2004	EXAMINER BUTLER, DENNIS	
HOYT A. FLEMING III P.O. BOX 140678 BOISE, ID 83714			ART UNIT 2115	PAPER NUMBER 10

DATE MAILED: 06/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/815,442

Applicant(s)

QUAN ET AL.

Examiner

Dennis M. Butler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3,4,7,8,9.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

1. This action is in response to the application filed on March 19, 2001. Claims 1-24 are pending.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 16-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 16, the phrase "the plurality of clients" lacks proper antecedent basis. In addition, the claim is unclear as to the relationship between the preamble (sending a transaction to a first of the plurality of clients) and element e (sending the retrieved transaction to the client).

Regarding claim 18, the phrase "the first cycle" lacks proper antecedent basis.

Claims 17-20 are rejected because they incorporate the deficiencies of claim 16.

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-10 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2, 4, 10-11 and 13 of U.S. Patent No. 6,735,654.

Although the conflicting claims are not identical, they are not patentably distinct from each other because Patent 6,735,654 (Quan) claims substantially the same invention recited in claims 1 and 4 including a first repeater (first repeater), a second repeater (second repeater), a third repeater (third repeater), the second repeater receiving transactions from the first repeater and the second repeater including an arbiter/distributed arbiter that predicts receipt of transactions from the first repeater to the second repeater with claim 1. Quan claims substantially the same invention recited in claims 6 and 9 including a first repeater (first repeater), a second repeater (second repeater), a third repeater (third repeater), the second repeater receiving transactions from the first repeater and the second repeater including an arbiter/distributed arbiter that predicts receipt of transactions from the first repeater to the third repeater with claim 10. The claims differ from Quan in that Quan fails to recite the first repeater including an arbiter that arbitrates transactions between the first and second repeaters and between the first and third repeaters. However, Quan's claimed computer system is directed to a shared bus architecture in which the second and third repeaters may send transactions to the first repeater in the same bus cycle. Therefore, it

would have been obvious for one of ordinary skill in the art at the time of the invention to include an arbiter in the first repeater that arbitrates transactions between the first and second repeaters and between the first and third repeaters in order to properly process transactions from the second and third repeaters when both the second and third repeaters send transactions to the first repeater during the same bus cycle. Quan claims the first repeater is an address repeater as recited in claims 2 and 7 with claims 2 and 11. Regarding the second and third address repeaters, Quan's specification and drawings refer to the second and third repeaters as address repeaters throughout the entire specification.

Therefore, the specification clearly defines the second and third repeaters as address repeaters and the claimed second and third repeaters are address repeaters. Quan claims the second repeater and arbiter receiving a signal from the third repeater as recited in claims 5 and 10 with claims 4 and 13.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 11-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagersten, U. S. Patent 5,852,716 in view of Hagersten, U. S. Patent 5,796,605.

Per claims 11, 16 and 21:

A) Hagersten 716' teaches the following claimed items:

1. a first repeater with Top Repeater TR 12 of figure 2;
2. a second repeater coupled to a plurality of clients (bus devices 20) with Repeater 14A of figure 2;
3. a third repeater with Repeater 14B of figure 2;
4. sending a transaction from a second of the plurality of clients to the second repeater at column 5, lines 40-49;
5. sending the transaction from the second repeater to the first repeater at column 3, lines 41-45 and 50-55;
6. retrieving the transaction from the second repeater and sending it to the first of the plurality of clients or to the client at column 5, lines 55-64 and at column 6, lines 23-36.

B) The claims seem to differ from Hagersten in that Hagersten fails to explicitly teach storing the transaction in an outgoing request queue in the second repeater as claimed.

C) However, Hagersten 605' describes that it is known to store the transaction in an outgoing request queue in the second repeater with queue 122A of figure 8 and at column 14, lines 34-52. It would have been obvious to one having ordinary skill in the art at the time the invention was made to store the transaction in an outgoing request queue in the second repeater, as taught by Hagersten 605', in order to allow each node or device to receive the transaction at approximately the same time. One of ordinary skill in the art would have been motivated to combine Hagersten 716' and Hagersten 605' because of Hagersten 605' suggestion that providing a queue in the lower level repeaters allows for transaction ordering, device receiving transactions at approximately the same time and frees the originating node to broadcast a new bus transaction at column 14, lines 40-52 and at column 15, lines 19-28. It would have been obvious for one of ordinary skill in the art to combine Hagersten 716' and Hagersten 605' because they are both directed to the problem of providing a computer system including multiple local buses using a plurality of repeaters that transmit and receive transactions to and from processors and other devices connected to the local buses.

Per claims 12-15, 17-20 and 22-24:

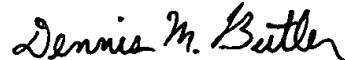
Hagersten 716' describes sending the transaction to the third repeater and sending a second transaction from the second repeater to the first repeater in a first (same) cycle at column 6, lines 5-14. Hagersten 716' describes first, second and third address repeaters with the repeaters of figure 2 as described above in

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connection to the rejection of claims 11, 16 and 21, at column 4, lines 22-44 and at column 5, lines 10-39. Hagersten 716' describes that a client includes a CPU that receives and/or stored the retrieved transaction with Processor 48 of figure 2, at column 4, lines 60-63 and at column 5, lines 40-47.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis M. Butler whose telephone number is 703-305-9663. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.



Dennis M. Butler
Primary Examiner
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